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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,128	07/18/2003	Sridhar Srinivasan	3382-66127	4493
26119 7590 11/14/2007 KLARQUIST SPARKMAN LLP 121 S.W. SALMON STREET SUITE 1600 PORTLAND, OR 97204			EXAMINER PERUNGAVOOR, SATHYANARAYA V	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 11/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/623,128

Applicant(s)

SRINIVASAN ET AL.

Examiner

Sath V. Perungavoor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/04/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Applicant(s) Response to Official Action***

- [1] The response filed on October 1, 2007 has been entered and made of record.

### ***Response to Arguments/Amendments***

- [2] Presented arguments have been fully considered, but are rendered moot in view of the new ground(s) of rejection necessitated by amendment(s) initiated by the applicant(s).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- [3] Claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Frishman et al. (“Frishman”) [US 2003/0044080 A1].

Regarding claim 1, Frishman meets the claim limitations, as follows:

A method of reducing blocking artifacts in video compression [fig. 5], comprising:  
for a block edge segment (*i.e.* 200 or 204) of a block portion (*i.e.* 16x16 region) of the  
video where the block edge segment has a length of plural pixels (*i.e.* 10 pixels) [fig. 4;

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*para. 0045]*, sampling an edge strength measure (*i.e.* 150,  $|P_8 - P_9| \leq M^*(QS)$ ) at a subset of pixel locations (*i.e. boundary pixel-duo,  $P_8$  and  $P_9$* ) less than all pixel (*i.e. 8 pixels*) locations along the block edge segment's length [*fig. 4; para. 0047*]; determining (*i.e. 150*) whether to filter the block edge segment based on the sampled edge strength measure (*i.e. whether block or non-blocky*) [*fig. 5; para. 0047 and 0049*]; filtering (*i.e. 156*) the block edge segment conditioned (*i.e. blocky*) on the determination [*fig. 5, para. 0059*], wherein the determination based on the sampled edge strength measure at the subset of pixel locations applies to filtering at all pixel locations along the block edge segment [*para. 0059*].

Regarding claim 8, all claimed limitations are set forth and rejected as per discussion for claim 1.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[4] Claim 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun et al. ("Sun") [US 2003/0053541 A1] in view of Frishman.

Regarding claim 2, Sun meets the claim limitations, as follows:

A method of reducing blocking artifacts in video compression [figs. 1 and 8], comprising: evaluating a deblocking filter condition (*i.e.* boundary strength,  $B_d$ ) for a block edge between two blocks in a frame of the video based at least in part on a frame type (*i.e.* 200), motion vectors of the blocks (*i.e.* 208), and non-zero residual error (*i.e.* 204) [fig. 8; paras. 0035-0037]; determining whether to filter (*i.e.*  $B_d=0$  or  $B_d \neq 0$ ) the block edge dependent at least in part upon the evaluation [fig. 8; para. 0038]; and if determined to filter the block edge, applying a deblocking filter to the block edge [fig. 8; para. 0038].

Sun does not explicitly disclose the following claim limitations:

sampling an edge strength measure at locations less than a full length of the block edge; and further basing the determination of whether to filter the block edge based on the sampled edge strength measure; wherein the determination based on the sampled edge strength measure at the locations less than the full length of the block edge applies to filtering at all pixel locations along the block edge.

However, in the same field of endeavor Frishman discloses the deficient claim limitations, as follows:

sampling an edge strength measure (*i.e.* 150,  $|P_8 - P_9| \leq M^*(QS)$ ) at locations (*i.e.* boundary pixel-duo,  $P_8$  and  $P_9$ ) less than a full length (*i.e.* 8 pixels) of the block edge [fig. 4; para. 0047]; and further basing the determination of whether to filter (*i.e.* 150) the block edge based on the sampled edge strength measure (*i.e.* whether block or non-blocky) [fig. 5; para. 0047 and 0049]; wherein the determination based on the sampled edge strength measure at the locations less than the full length of the block edge applies to filtering at all pixel locations along the block edge [para. 0059].

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It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Sun with Frishman to include an edge strength condition before deblocking, the motivation being to remove blocking artifacts in only the smooth regions [para. 0049].

Regarding claim 7, all claimed limitations are set forth and rejected as per discussion for claim 2.

### ***Conclusion***

[5] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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### ***Contact Information***

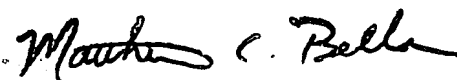
[6] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is (571) 272-7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Matthew C. Bella whose telephone number is (571) 272-7778, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dated: November 9, 2007

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